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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/747,530	12/22/2000	Chinmay S. Patel	42390P10213	2076

8791 7590 08/25/2004

BLAKELY SOKOLOFF TAYLOR & ZAFMAN
12400 WILSHIRE BOULEVARD
SEVENTH FLOOR
LOS ANGELES, CA 90025-1030

EXAMINER	
TRUJILLO, JAMES K	

ART UNIT	PAPER NUMBER
2116	6

DATE MAILED: 08/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/747,530	PATEL, CHINMAY S.	
	Examiner	Art Unit	
	James K. Trujillo	2116	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 May 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-2, 4-8, 10-13, 15, 17-21, 23-26 and 28-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. It is hereby acknowledged that the following papers have been received and placed of record in the file: Amendment A dated 5/24/04.

2. Claims 1-2, 4-8, 10-13, 15, 17-21, 23-26 and 28-40 are presented for examination. Applicants stated that claim 23 was canceled, however it is believed that this is in error. It is believed that claim 22 should have been stated as canceled, not claim 23. Therefore, it appears Applicants have canceled claims 3, 9, 14, 16, 22 and 27.

Response to Arguments

3. Applicant's arguments with respect to claims 1-2, 4-8, 10-13, 15, 17-21, 23-26 and 28-40 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-2, 5, 7-8, 11, 13, 15, 18-19, 21, 24-26, 29 and 31-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kwan, U.S. Patent 6,415,382 in view of Wu et al., U.S. Patent 6,105,130 and Yokote et al., U.S. Patent 5,471,603.

6. As to claim 1, Kwan teaches an apparatus comprising:

a. a host processing system comprising a non-volatile memory (internal hard disk 114) and a random access memory (RAM) [figure 2A and col. 5 lines 20-24];

b. a peripheral device (internal hard disk) comprising a storage medium comprising machine-readable instructions stored thereon for [figure 2A, 3A, 3B, 3C, 4A, 5 and col. 4 line 56 through col. 5 line 9]:

i. initiating an agent (ABS-2) to reside on the host processing system, the agent comprising [figure 4A, 4B and col. 5 lines 10-34]:

(1) logic to modify an interrupt vector address (disk number mapping 218) to specify execution of machine-readable instructions at a location memory [figure 4B]; and

(2) logic to initiate a reset procedure (the system boots from the selected disk) at the host processing system to commence execution of machine-readable instructions at the location in response to a predetermined event (a booting procedure is selected) at the host processing system [figures 4A and 4B].

Specifically, Kwan teaches a system that uses a primary disk to select another disk from which to boot. In Kwan, the interrupt vector is modified to specify execution at a location in the primary disk or another hard disk. In the preferred embodiment of Kwan, the primary disk is a peripheral that is located internally in host processing system.

Two differences exist between Kwan and Applicants claimed invention. First, the peripheral device (primary hard disk) of Kwan is also the non-volatile memory. Second, Kwan

does not show that the execution of the machine-readable instructions at a location in the random access memory instead of at a location in the non-volatile memory and execution thereof takes place in the random access memory. Specifically, Kwan discloses the execution of the machine-readable instructions (booting) at a location in a primary, secondary or an additional hard disk but not from a random access memory.

Wu teaches a peripheral device (external to the system) comprising a storage medium comprising machine readable instruction stored thereon for initiating an agent on a host processing system comprising logic to initiate a reset procedure (booting from a desired peripheral device) [col. 3 lines 59-67]. Specifically, Wu teaches a system that boots a host system from a desired peripheral device. The peripheral device of Wu may be external to the host. The system of Wu is similar to that of Kwan. Both systems have peripheral device from which they may boot. Wu provides the advantage of being able to boot from preferred device to enable superior capabilities.

It would have been obvious to one of ordinary skill in the art, having the teachings of Kwan and Wu before him at the time the invention was made, to modify the system of Kwan to make peripheral device disk as taught by Wu the primary disk from which to boot [col. 1 line 65 through col. 2 line 8].

One of ordinary skill in the art would have made the modification in order to take advantage of superior capabilities in view of the teaching of Wu.

Yokote teaches an apparatus that uses random access memory as a hard disk (RAM disk) [col. 1 lines 45-48]. Specifically, Yokote teaches random access memory that emulates a hard disk. The apparatus of Yokote uses random access memory similar to that of Kwan. Yokote

uses random access memory as hard disk to significantly decrease latency time. Yokote also provides the advantage of having high density and high capacity.

It would have been obvious to one of ordinary skill in the art, having the teachings of Kwan and Yokote before him at the time the invention was made, to modify the random access memory of Kwan as disclosed by Yokote in order to modify an interrupt vector address to specify execution of machine-readable instruction at a location in the random access memory instead of the at a location in the non-volatile memory and commence execution of instructions at the location in the random access memory. Using the teachings of Yokote in Kwan would allow the random access memory to operate as a disk to emulate a peripheral device with reduced latency.

One of ordinary skill in the art would have been motivated to make this combination in order to boot from the random access memory that would operate as a hard disk, which would significantly reduce latency.

7. As to claim 2, Kwan together with Wu and Yokote taught the apparatus according to claim 1 as described above. Kwan further teaches wherein the agent further comprises logic to load machine-readable instructions at the location in the random access memory for retrieving one or more programs from the storage medium of the peripheral device, the one or more programs comprising an operating system [col. 3 lines 53-58]. In Kwan, a different operating system is loaded from a peripheral device.

8. As to claim 5, Kwan together with Wu and Yokote taught the apparatus according to claim 1 as described above. Kwan further teaches wherein the predetermined event comprises an

event at a user interface of the host processing system (a user selects disk 210 and 212) [figure 4A and 4B].

9. As to claim 31, Kwan together with Wu and Yokote taught the apparatus according to claim 1 as described above. Kwan further teaches wherein the non-volatile memory comprises a master boot record (MBR 14) at the location in the non-volatile memory [figure 2B].

10. As to claim 32, Kwan Kwan together with Wu and Yokote taught the apparatus according to claim 31 as described above. Kwan further teaches wherein the non-volatile memory corresponds with a cylinder-head-sector of the non-volatile memory [figure 2B and col. 3 line 65 through col. 4 line 9]. Figure 2B show a typical single disk within a hard disk drive. As is well know to those of ordinary skill in the art, in order to read an address within the disk a cylinder-head-sector must be given.

11. As to claims 7-8, 11, 13, 15, 18-19, 21, 24-26, 29 and 31-40, Kwan together with Wu and Yokote taught the claimed apparatus therefore they also teach the claimed method for operating the apparatus, the claimed article, the claimed peripheral, and the apparatus having the claimed means.

12. Claims 4, 10, 17, 23 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kwan, Wu and Yokote in further view of Thompson, U.S. Patent 5,557,732 (cited in last office action).

13. As to claim 4, Kwan together with Wu and Yokote taught the apparatus according to claim 2 as described above. Kwan together with Wu and Yokote do not expressly disclose wherein the one or programs comprises a utility program and agent further comprises logic to

launch the utility program following a launch of the operating system in response to detection of the predetermined event.

Thompson taught wherein utility programs are launched following a launch of the operating system [col. 6 lines 35-52]. Thompson teaches a computer system having a hard disk and running an operating system like that of Kwan, Wu and Yokote. The system of Thompson runs the utility program to prevent access to potentially destructive features of the computer system [col. 2 lines 32-34]. While the embodiment of Thompson is directed toward a system with a demonstration program those of ordinary skill would recognize the use of such a utility to any type of system where for protection from inadvertent operations.

It would have been obvious to one of ordinary skill in the art, having the teaching of Kwan, Wu, Yokote and Thompson before him to modify operating system of as taught by Kwan with the utility program as taught by Thompson in order to obtain a system with a protected enviroment.

14. As to claims 10, 17, 23 and 28, Kwan together with Wu, Yokote and Thompson taught the claimed apparatus therefore they also teach the claimed method for operating the apparatus, the claimed article, the claimed peripheral, and the apparatus having the claimed means.

15. Claims 6, 12, 20 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kwan, Wu and Yokote in view of Lichtman et al. U.S. Patent 5,787,246.

16. As to claim 6, Kwan together with Wu and Yokote substantially teaches the apparatus according to claim 1 as described above. Kwan teaches wherein the apparatus further comprises a data bus (external cabling) coupled between the host processing system (computer) and the

peripheral device (external disks 112 and 118), and wherein the peripheral device further comprises logic for transmitting machine-readable instructions (for booting) to the host processing system for creating the agent in response to a procedure (a booting procedure) [figure 2A and col. 3 lines 45-64].

Kwan together with Wu and Yokote does not expressly disclose wherein the procedure is a procedure to enumerate the peripheral device on the bus. Specifically, Kwan together with Wu and Yokote do not address the details of the procedure.

Lichtman teaches a system having a procedure to enumerate peripheral devices on a bus [col. 25 lines 17-33]. The system of Lichtman, like Kwan, is a computer system with peripheral coupled to a system bus. Lichtman enumerates the peripheral devices to appropriately allocate resources. Allocating resources within a system would increase reliability and performance.

It would have been obvious to one of ordinary skill in the art, having the teachings of Kwan, Wu, Yokote and Lichtman before him at the time the invention was made, to further modify the booting procedure of Kwan by enumerating the peripheral devices as taught by Lichtman.

One of ordinary skill in the art would have made the modification in order appropriately allocate resources in view of the teaching of Lichtman, which would lead to increased reliability and performance.

17. As to claims 12, 20 and 30, Kwan together with Wu, Yokote and Thompson taught the claimed apparatus therefore they also teach the claimed method for operating the apparatus, the claimed article, the claimed peripheral, and the apparatus having the claimed means.

Conclusion

18. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James K. Trujillo whose telephone number is (703) 308-6291 [new phone number may be in effect in mid October - (571) 272-3677]. The examiner can normally be reached on M-F (7:30 am - 5:00 pm) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Browne can be reached on (703)308-1159 [new phone number may be in effect in mid October - (571) 272-3670]. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James Trujillo
August 19, 2004

LYNNE H. BROWNE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER ~~3600~~ 2100